Vscan*

- Pocket-sized visualization;
- Focus on abdominal aorta and urinary bladder

* Trademark of General Electric Company
What is pocket-sized ultrasound?

- Quick and immediate visualization
- Ultrasound technology
- Portability

- Function: Black & White / Color imaging
- Size: < approx. 1 pound, pocket-sized
- Scanner: single probe with 6-24cm depth

Vscan may redefine primary care for physicians by allowing for anatomical visualization potentially providing for an immediate diagnosis decision during physical exams.
Potentially redefine physical exams...

Quick look

Palpation

Inspection

Vscan + physical exam

Auscultation

Percussion

...quick and immediate visualization.
Benefits of using Ultrasound for visualization

Clinical advantages

- Non-invasive
- No radiation
- Real-time imaging
- Proven technology

Advanced technology in a pocket sized package
Guidelines for imaging

The American Institute for Ultrasound in Medicine (AIUM) and the U.S. Food and Drug Administration (FDA) have published guidelines for Ultrasound Imaging of the Abdominal Aorta and Urinary Bladder.
Viewing the abdominal aorta with Ultrasound

Abdominal pre-set; optimized for abdominal imaging

Normal

Abnormal
Measuring the abdominal aorta with Vscan
Viewing the urinary bladder with Ultrasound

Abdominal pre-set; optimized for abdominal imaging
Measuring the urinary bladder with Vscan

For calculation of volume refer to the reference articles
University Hospital of Montpellier*

Clinical study planned as of February 2012

Clinical Indication:
Postoperative urinary retention
Postoperatively, after general or spinal anesthesia, urinary retention is a complication associated with over-distension of the bladder that can result in permanent damage of the detrusor muscle of the bladder.

Objective:
Feasibility testing of Bladder Volume calculation by Ultrasound scanning, performed by nurses in recovery room under the direction of a physician.

Methods:
Prospective and observational study, conducted in the ICU department, University Hospital of Montpellier.

Training:
1 hour training by physician expert
• Explanatory leaflet
• Online webucation
• Vscan quick guide
• Probe positioning
• Bladder identification

* Used by permission from University Hospital of Montpellier. GE is not a sponsor of this study.
Measuring urinary bladder with Vscan

1. Open Vscan and select pre-set

4. Position probe above the pubis, facing down, move up and down to obtain the largest diameter

6. Adjust basic settings of image acquisition: depth, gain

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University Hospital of Montpellier*

* Measuring urinary bladder with Vscan

4. Identify the bladder

9. Freeze the image

15. Measure the largest diameter and calculate volume using formula

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References for bladder measurements

- Urinary Bladder Volume Measurements: Comparison of Three Ultrasound Calculation Methods
- Urinary Bladder Volume Measurements: Comparison of Three Ultrasound Calculation Methods
- Predictive Factors of Early Postoperative Urinary Retention in the Postanesthesia Care Unit
  Anesth Analg 2005;101:592–6
- Postoperative Urinary Retention Anesthesiology 2009; 110:1139 –57

Note: Vscan images are 2D only
Additional abdominal “Quick Look” applications

- Inferior vena cava
  (Help evaluate size)

- Left kidney
  (Help evaluate the presence of fluid)
Additional abdominal “Quick Look” applications

**Gallbladder**
(Help evaluate the presence of stones)

**Right kidney**
(Help evaluate the presence of fluid)
Vscan indications for use

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<td>Single-tethered transducer</td>
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<td>Cardiac, Abdominal, OB presets</td>
<td>Up to 1hr scan time</td>
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<td>&lt; 1 pound &amp; pocket-sized</td>
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**Indications**

- Abdominal
- Urology
- Cardiac
- Fetal / OB

- Select peripheral vessels
- Thoracic / pleural motion & fluid detection

**Anatomy**

- Aorta
- Spleen
- Myocardium septum
- Amniotic Fluid
- Gall bladder
- Urinary Bladder
- Inferior vena cava
- Placenta / Uterus
- Kidney
- Kidney / Ureter
- Mitral / Aortic valves
- Lung
- Liver
- Left ventricle
- Fetal Position
- Heart
It’s more than just a box

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![Visualizations](image1.png)  ![Visualizations](image2.png)  ![Visualizations](image3.png)